

REMARKS***Status of the Claims***

Claims 1-3, 5-7, 9, 10, and 12-23 are pending, with claims 1, 13, and 17 being independent. Without conceding the propriety of the rejections, claims 13, 15, and 17 have been amended to even more clearly recite and distinctly claim the invention. Support for the amendments may be found in the original claims, as well as throughout the specification, including, for example, at Page 5, lines 1 – 2; Page 6, lines 16 – 18; and Page 9, lines 8 - 12. Therefore, no new matter has been added.

Applicants would initially like to thank the Examiner for indicating that claims 1-3, 5-7, 9, 10 and 12 are allowed.

Applicants request clarification regarding the status of claims 21-23. While the Office Action Summary indicates that claims 13-23 are rejected, page 3 of the Office Action recites that claims 13-20 are rejected. Applicants note that claims 21 – 23 are dependent upon allowed claim 1. Therefore, Applicants believe that the Office Action Summary should indicate that claims 13-20 are rejected and claims 1-3, 5-7, 9, 10, 12, and 21-23 are allowed. Accordingly, Applicants respectfully request that the Examiner confirm the allowed claims and the rejected claims.

Applicants respectfully request the Examiner to reconsider and withdraw the outstanding rejections in view of the foregoing amendments and the following remarks.

The Presently Claimed Invention

The presently claimed invention relates generally to improved techniques for producing alpha-olefins from low sulfur hydrocarbon fractions, and more particularly, to the production of ethylene from low sulfur naphthas. More specifically, in one embodiment the presently claimed invention relates to a process for manufacturing ethylene including a first remote site and a second developed, industrial site, wherein the first remote site forms a Fischer-Tropsch naphtha having less than 1 ppm sulfur to be used at the second developed, industrial site, the second developed, industrial site forming the ethylene.

Claim Rejections under 35 U.S.C. § 103(a)

Claims 13-20 are rejected under 35 U.S.C. § 103(a), as allegedly being unpatentable over U.S. Patent No. 4,179,474 (“Beuther”) alone, or alternatively in view of the admitted prior disclosed by Applicants in the specification. Applicants respectfully disagree with the rejection; therefore, this rejection is respectfully traversed.

Beuther relates to a process for the pyrolysis of hydrogenated naphtha to produce a cracked product including ethylene. Beuther discloses pyrolyzing a catalytically hydrogenated naphtha stream containing less than 10 ppm by weight of sulfur without added hydrogen to a product including ethylene.

Applicants again would like to thank the Examiner for indicating that claims 1-3, 5-7, 9, 10 and 12 are allowed. Independent claims 13 and 17 recite processes for manufacturing ethylene from a Fischer Tropsch naphtha having less than 1 ppm sulfur similar to the process of claim 1. However, the processes of claims 13 and 17 further recite a first remote site and a second developed, industrial site, wherein the first remote site forms the Fischer-Tropsch naphtha having less than 1 ppm sulfur to be used at the second developed, industrial site, the second developed, industrial site forming the ethylene. The first remote site and the second developed, industrial site further distinguish claims 13 and 17 from the cited art.

As disclosed in the “Background of the Invention” section of the present application, natural gas is often plentiful in remote areas that are uneconomical to develop because of the lack of local markets for the gas or the high cost of transporting the gas to areas of high demand. One approach would be to convert the gas to a liquid chemical product for more cost-effective transportation to existing industrial facilities for further processing (Paragraph bridging Pages 1 and 2). Accordingly, it is an object of the present invention to develop an efficient process for producing ethylene at an industrial site utilizing methane obtained from a remote natural gas site (Page 4, 2nd Complete Paragraph).

The present specification further discloses that these objects are attained by providing a process for producing ethylene comprising converting methane at a natural gas-producing *remote site* into synthesis gas, converting the synthesis gas via a Fischer-Tropsch synthesis into low sulfur paraffinic hydrocarbon liquids containing less than 1 ppm sulfur, transporting the liquids to a *developed industrial site*, adding a

sulfur-containing compound, and converting the blend in a cracker unit to a product stream comprising ethylene. (Paragraph bridging Pages 4 and 5).

As defined in the specification of the present application, a remote site is a location away from a refinery, market, or other site where the distance of transportation is more than 100 miles, and preferably, more than 1,000 miles (Page 6, 2nd Complete Paragraph).

Applicants respectfully submit that the *remote site* for forming the Fischer-Tropsch naphtha is *not* merely a different reactor than the *developed, industrial site* for forming the ethylene. As defined in the specification, the remote site is a location away from the refinery (i.e., the developed, industrial site for forming the ethylene) where the distance of transportaion is *more than 100 miles*, and preferably, *more than 1,000 miles*.

Applicants respectfully submit that Beuther does not disclose or suggest forming a Fischer-Tropsch naphtha at *a first remote site* by a process comprising converting methane to syngas, subjecting the syngas to Fischer-Tropsch synthesis to form hydrocarbonaceous products; and isolating a Fischer Troprosch naphtha having less than 1 ppm sulfur. Applicants further respectfully submit that Beuther does not disclose or suggest *receiving at a second developed, industrial site* the Fischer-Tropsch naphtha, formed at the first remote site. In addition, Applicants respectfully submit that Beuther does not disclose or suggest *transporting* the Fischer-Tropsch naphtha formed at the first remote location and *receiving at a second developed, industrial site* the Fischer Tropsch naphtha.

Applicants further respectfully submit that Beuther does not disclose or suggest after receiving at the second developed, industrial site the Fischer Tropsch naphtha, adding at least one sulfur-containing compound to the Fischer-Tropsch naphtha to provide a blend having at least 1 ppm sulfur, converting the blend in a cracker unit to a product stream comprising ethylene; and isolating ethylene from the product stream of the cracker unit. Moreover, Applicants further respectfully submit that Beuther does not disclose or suggest after receiving at the second developed, industrial site the Fischer Tropsch naphtha, blending the Fischer-Tropsch naphtha with a sulfur-containing composition to provide a blend having at least 1 ppm sulfur, feeding the blend to a cracker unit, converting the blend in the cracker unit to a product stream comprising ethylene; and isolating ethylene from the product stream

of the cracker unit. Applicants further respectfully submit that they have admitted no prior art that would supplement any of the above-noted deficiencies of Beuther.

For at least the above reasons, Applicants respectfully request that the rejection of claims 13 – 20 under 35 U.S.C. § 103(a) be withdrawn.

Conclusion

Without conceding the propriety of the rejections, the claims have been amended, as provided above, to even more clearly recite and distinctly claim particularly preferred embodiments of Applicants' invention and to pursue an early allowance. For the reasons noted above, the art of record does not disclose or suggest the inventive concept of the present invention as defined by the claims.

In view of the foregoing remarks, reconsideration of the claims and allowance of the subject application is earnestly solicited. The Examiner is invited to contact the undersigned at the below-listed telephone number, if it is believed that prosecution of this application may be assisted thereby.

Respectfully submitted,

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